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## TITLE PAGE

Comparative assessment of methods for measuring consensual poverty: Sort Card versus CAPI

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### Abstract

Poverty means more than having a low income and includes exclusion from a minimally accepted way of life. It is now common practice in Europe to measure progress against poverty in terms of low income, material deprivation rates and some combination of both. This makes material deprivation indicators, and their selection, highly significant in its own right. The ‘consensual poverty’ approach is to identify deprivation items which a majority of the population agree constitute life’s basic necessities, accepting that these items will need revised over time to reflect social change. Traditionally, this has been carried out in the UK through specialised poverty surveys using a Sort Card (SC) technique.

Based on analysis of a 2012 omnibus survey, and discussions with three interviewers, this article examines how perception of necessities is affected by mode of administration – SC and Computer Assisted Personal Interviewing (CAPI). More CAPI respondents scored deprivation items necessary. Greatest disparities are in material items where 25 out of 32 items were significantly higher via CAPI. Closer agreement is found in social participation with 3 out of 14 activities significantly different. Consensus is higher on children’s material deprivation.

We consider influencing variables which could account for the disparities and believe that the SC method produces a more considered response. However, in light of technological advances, we question how long the SC method will remain socially acceptable. This paper concludes that the CAPI method can be easily modified without compromising the benefits of the SC method in capturing thoughtful responses.

**Keywords:** Deprivation, Socially perceived necessities, Poverty, Social exclusion, Sort Card, CAPI, Mode of administration.

### 1. Introduction

Central to Peter Townsend’s (1979) concept of relative deprivation is the belief that poverty is about more than simply a lack of money and includes exclusion from a basic standard of living relative to the society in which one lives. Building on this work, Mack and Lansley (1985) introduced the notion of ‘consensual’ poverty where life’s necessities are established by public consensus and not academic or political opinion. Items and activities which receive 50% or more public support are classified as necessary. Individuals are held to be deprived of a necessity if they want it but do not have it because of unaffordability. Further refinements made through the Poverty and Social Exclusion (PSE) studies (Gordon et al. 2000; Hillyard et al. 2003) considered income levels along with deprivation, demonstrating how this approach improved measures of poverty and social exclusion.

This work has had international influence in establishing the appropriateness of material deprivation as an indicator of minimum living standards in the society to which people belong. For example, in 2002 the Department for Work and Pensions consulted on measures of progress against eradicating child poverty, agreeing on a measure of low income and material deprivation (DWP 2003). The UK’s Child Poverty Act 2010 incorporated a measure of material deprivation within the official Child Poverty Act targets. The use of material deprivation indicators also form part of the EU headline poverty and social exclusion target (Eurostat 2010). A mid-term review of the EU target and associated measures of material deprivation has been set for 2015.

Many of the deprivation items included in the Family Resources Survey (FRS) remain consistent with items originally identified in the PSE studies. Research investigating older people and deprivation (Berthoud et al. 2006; Dominy and Kempson 2006; Finch and Kemp 2006; McKay 2008) have informed subsequent revisions of the FRS list of items. There was also a change in four of the items used to measure child poverty under the UK's Child Poverty Act (2010) from 2010/11. For Northern Ireland, consistently one of the UK regions with the highest levels of poverty (as recorded by the Households Below Average Income Series), this resulted in a four percentage point drop (from 16 to 12) in the proportion of children below a combined income/deprivation threshold (Tomlinson et al. 2014: 14). So it does matter how the items are chosen because the particular list of items can be crucial to the level of deprivation recorded.

## 2. PSE UK 2012 Methodology

Funded by the Economic and Social Research Council (ESRC) the PSE study was replicated across the UK in 2011/12. Step one was to ascertain the public's views on basic necessities. In June 2012, a 'Necessities module' was included in the Omnibus Survey for Britain, carried out by the National Centre for Research Methods (NatCen), and the Omnibus Survey in Northern Ireland, carried out by the Northern Ireland Statistics and Research Agency (NISRA). All respondents were asked to choose from a complete set of 76 items and social activities which ones they believed all adults and children should be able to afford and not have to go without because of lack of money. Both surveys used the SC method which was identical to the method used in the PSE studies in Britain in 1983, 1990 and 1999. Items and activities receiving a simple majority score (50% or more) were deemed necessities and the results from the SC method of data collection were used in the second stage of the UK wide PSE study to establish the extent to which households are deprived of these essential items and activities.

In the SC method respondents are handed four sets of numbered colour coded cards (one set at a time) and asked to complete the following task:

*"On these cards are a number of different items which relate to our standard of living. I would like you to indicate the living standards you feel all adults should have [...] today by placing the cards in the appropriate box.*

*Box A is for items which you think are necessary – which all adults should be able to afford and which they should not have to do without.*

*Box B is for items which may be desirable but are not necessary."*

The same task was carried out for children's items and activities. Each card set was shuffled before being handed to the respondent to ensure they were presented in a random order. Once the respondent had placed all the cards from a set into the two boxes the interviewer picked up the cards in Box A and B and entered each card number into their laptop. If a respondent could not decide whether an item/activity is a necessity or not, these cards are usually set down by the side of the two boxes. These cards are also entered into the computer.

Full results from all surveys, together with an opportunity to explore top level findings on people's attitudes to necessities and make comparisons with previous years are available from the [PSE project website](#).

### 2.1 Northern Ireland participants

The Northern Ireland Omnibus Survey is based on a simple random sample of 2,200 addresses selected from the Land and Property Services Agency list of private addresses. The interviewers list all members of the household who are eligible for inclusion in the sample. From this listing of eligible adults, the interviewer's computer randomly selects one adult. This person, the 'selected respondent', is then asked to complete the interview. What set the Northern Ireland Omnibus Survey apart was that the sample was split in half with one cohort of respondents registering their opinion by SC, as in GB, and the other half recording their opinion using CAPI as was the case in the PSE NI 2002/03 survey. Each address was assigned a serial number: cases with an odd serial number were routed to the SC method of data collection (n=510), while those cases with an even serial number were routed to the CAPI method (n=505). This ensured that both samples were equal in terms of geographic representation. The

split sample meant that the 2012 Omnibus data was not only comparable across the UK (the SC results) but was also comparable with the NI 2002 survey (the CAPI results).

Participants who were interviewed using the CAPI method were asked to choose from an identical set of adult and children's items and social activities. However, in these cases, the respondent used a computer (a Personal Digital Assistant (PDA)) and were asked to record whether they believed each item and activity was 'Necessary' or 'Not necessary' (a self-completion module). Note here the slight difference in question wording (i.e. omission of the word 'desirable'). The CAPI questionnaire was programmed to randomise the order in which items and activities appeared for each interview conducted.

## 2.2 Mode of administration

There are various ways of collecting survey information and studies have shown how the method of administration can affect the accuracy and quality of the data obtained (Presser et al. 2004). But within any mode of administration there are so many potential biasing influences on responses that it can be difficult to disentangle the controlling factors from each other (Bajekal et al. 2004). Influencing factors include the choice of sampling frame, social desirability bias, interviewer bias, the order in which questions are asked and of course, question wording. It has long been established that even small differences in question wording can affect response rates in surveys, particularly when collating subjective specifics such as opinions (Cantril 1944; Schuman and Presser 1996). A growing body of literature examines the impact of question wording on people's reported opinions across a range of often sensitive and highly provocative issues. Examples include the appropriateness of court decisions where punitive attitudes changed when the question was re-phrased (Applegate and Sanborn 2011); views on prenatal testing and abortion which remained unchanged overall when the word 'baby' was replaced by 'foetus' but changed substantially among some social groups (Singer and Couper 2014). Meanwhile, respondents self-identifying as Republican voters were less likely to believe 'climate change' was real when it was referred to as 'global warming' whereas those identifying as Democrats remained unaffected by the word change (Schuldt et al 2011). A common theme here is the argument that not enough attention is paid to the meaning of people's responses. This argument becomes more salient when considering how frequently policy direction and decision making is shored up by the results of public opinion.

However, findings on the extent of such impacts are often inconclusive or inconsistent across different subject areas and sometimes within the same study. One of the few systematic, interdisciplinary reviews on possible impacts from different methods of questionnaire administration (Bowling 2005), noted two main limiting features widespread across the literature - most of the studies reviewed did not use randomization methods to allocate the different question modes to participants and investigations were mostly based on comparisons of separate samples, rather than controlled experimental designs (Bowling, 2005: 283).

It is in these two areas that this current work differs significantly from the majority of other studies examining how mode of administration impacts on survey responses. Dividing the Northern Ireland sample presented a unique opportunity to randomly allocate participants equally across the different data collection methods (see table 1) and to carry out a comparative investigation within one sample. This permits a more robust investigation than is usually available to researchers.

*Table 1: Representativeness of respondent sample across socio-economic categories*

	CAPI %	Sort Card %
Male	46	44
Female	54	56
Age:		
<25	13	12
25-44	35	33
45-65	33	33
65 & over	19	22
Disability	21	23

No disability	79	77
Urban	61	62
Rural	39	38
Tertiary education	30	33
Primary education	27	28
Catholic	43	43
Protestant	57	57
Paid employment	56	55
No paid employment	44	45

### 2.3. Methodology

The main interest in this paper is to investigate the differences of opinion between modes of questionnaire administration and disentangle any influencing factors that may have impacted on the responses obtained. First, percentage scores for the necessity of items and activities were compared between CAPI and SC respondents to see how the different modes affected overall responses. Second, the differences were examined using relative risk ratios (RR) which tell us the risk or probability of one group (CAPI respondents) thinking an item or activity a necessity compared with another group (SC respondents)<sup>1</sup>. Third, analysis of opinion was tested systematically across an extensive range of socio-demographic characteristics using RR to see if variations of opinion existed among particular groups within the survey respondents. Fourthly, the views of a small number of survey interviewers (three) were obtained to get a qualitative sense of any other information or observations that would be of value to the overall analysis. Again, this is an insight not normally available to other researchers trying to separate out the extent of possible biases within mode of administration.

### 3. Results

Compared with the SC method, higher percentages of people supported the necessity of adult items when using the CAPI method. The only exception was in the Social Domain where five activities received higher support from SC respondents. In only one item (a car) was there no difference in opinion according to the method used. Eight items were supported by 50% or more CAPI respondents which were not considered necessary by a majority of SC respondents (see Appendix One).

The greatest difference in opinion was '*A good outfit to wear for special occasions such as parties and weddings*' (58% support via CAPI compared to 38% with SC) with the least difference being '*A dishwasher*' with only 1% difference of opinion (13% via CAPI and 12% SC). The pattern is noticeably different in relation to social activities, with less disagreement of opinion. In the majority of cases, differences of only a few percentage points exist. In no instances did any social activity receive a score above 50% in one method and not the other. Opinions regarding the necessity of social participation for adults were similar regardless of which method is used.

The largest disparities in opinion were found in '*Visiting friends or family in hospital or other institutions*' and '*Attending weddings, funerals or similar occasions*' drawing rates of 10 and 8 percentage points higher, respectively, from CAPI respondents than those interviewed via SC. However, both these items received high support from the public as necessities (i.e. more than 80%).

Table two presents RRs and 95% confidence intervals for each of the basic necessities<sup>2</sup>.

<sup>1</sup> A relative risk ratio of 2.0 means twice the risk, a score of 0.5 means half the risk, a score of 3.0 is three times the risk and a score of 0.33 is a third of the risk and so forth. A relative risk of 1 would indicate that there are no differences between the two groups (see Gordon 2012 for more information).

<sup>2</sup> Confidence intervals provide information about the range in which the true value lies with a certain degree of probability. Thus a 95% confidence interval means we can be sure 95% of the time that the findings are not due to chance. If the 95% confidence intervals of a relative risk ratio span 1.0 then we cannot be confident at the 5% level that the difference is significant.

Table 2: Adult items and activities – Relative risk ratios (CAPI vs. SC)

OMNIBUS 2012 - ADULT ITEMS	Relative Risk Capi v's SC	95% CI Lower	95% CI Upper
<b>FOOD</b>			
<b>Two meals a day</b>	<b>1.04</b>	<b>1.01</b>	<b>1.07</b>
Fresh fruit and vegetables every day	1.05	0.99	1.10
<b>Meal with meat, fish or vegetarian equivalent every other day</b>	<b>1.10</b>	<b>1.03</b>	<b>1.18</b>
A roast joint (or its equivalent) once a week	1.11	0.95	1.30
<b>HOUSING</b>			
<b>Heating to keep home adequately warm</b>	<b>1.03</b>	<b>1.01</b>	<b>1.04</b>
Dry, damp-free home	1.03	0.99	1.05
<b>A table, with chairs, at which all the family can eat</b>	<b>1.11</b>	<b>1.04</b>	<b>1.18</b>
<b>Enough money to keep your home in a decent state of decoration</b>	<b>1.12</b>	<b>1.04</b>	<b>1.21</b>
<i>Replace any worn out furniture</i>	<b>1.32</b>	<b>1.15</b>	<b>1.51</b>
<b>CLOTHES</b>			
<b>Warm, waterproof coat</b>	<b>1.10</b>	<b>1.04</b>	<b>1.16</b>
<b>Good clothes to wear for job interviews</b>	<b>1.30</b>	<b>1.20</b>	<b>1.42</b>
<i>Two pairs of all-weather shoes</i>	<b>1.32</b>	<b>1.17</b>	<b>1.48</b>
<i>Good outfit to wear for special occasions such as parties and weddings</i>	<b>1.52</b>	<b>1.32</b>	<b>1.75</b>
<i>Replace worn out clothes with new (not second hand) ones</i>	<b>1.32</b>	<b>1.15</b>	<b>1.51</b>
<b>INFORMATION</b>			
<b>Telephone (includes mobile)</b>	<b>1.15</b>	<b>1.07</b>	<b>1.24</b>
<i>Television</i>	<b>1.19</b>	<b>1.05</b>	<b>1.34</b>
Mobile phone	1.17	0.99	1.38
<b>Home computer</b>	<b>1.35</b>	<b>1.12</b>	<b>1.62</b>
<b>Internet connection at home</b>	<b>1.28</b>	<b>1.06</b>	<b>1.55</b>
<b>DURABLE GOODS</b>			
<b>Replacing or repairing broken electrical goods such as fridges or washing machines</b>	<b>1.13</b>	<b>1.07</b>	<b>1.18</b>
<b>Washing machine</b>	<b>1.07</b>	<b>1.02</b>	<b>1.12</b>
<b>Curtains or window blinds</b>	<b>1.28</b>	<b>1.18</b>	<b>1.38</b>
Car	0.98	0.86	1.13
Dishwasher	1.10	0.78	1.54
<b>PERSONAL</b>			
<b>All recommended dental work/treatment</b>	<b>1.13</b>	<b>1.07</b>	<b>1.18</b>
<b>Hair done or cut regularly</b>	<b>1.54</b>	<b>1.30</b>	<b>1.83</b>
<b>PERSONAL FINANCES</b>			
Household contents insurance	1.06	0.98	1.14
<b>Regular savings (of £20 a month) for rainy days</b>	<b>1.28</b>	<b>1.15</b>	<b>1.42</b>
<b>To be able to pay an unexpected expense of £500</b>	<b>1.17</b>	<b>1.04</b>	<b>1.30</b>
<i>Presents for friends or family once a year</i>	<b>1.38</b>	<b>1.20</b>	<b>1.58</b>
<i>Regular payments into an occupational or private pension</i>	<b>1.31</b>	<b>1.13</b>	<b>1.51</b>
<i>Small amount of money to spend each week on yourself, not on your family</i>	<b>1.33</b>	<b>1.15</b>	<b>1.55</b>
<b>SOCIAL</b>			
<b>Visiting friends or family in hospital or other institutions</b>	<b>1.11</b>	<b>1.06</b>	<b>1.17</b>

Celebrating special occasions such as Christmas	0.98	0.93	1.03
<b>Attending weddings, funerals or similar occasions</b>	<b>1.10</b>	<b>1.03</b>	<b>1.17</b>
Having a hobby or leisure activity	1.07	0.98	1.16
Taking part in sport/exercise activities or classes	1.11	0.99	1.24
Attending church or other place of religious worship	1.01	0.90	1.13
Having friends or family visit for a drink or meal once a month	0.97	0.84	1.12
One week's annual holiday away from home (not staying with relatives)	1.12	0.94	1.34
Visiting family/friends in other parts of the country four times a year	0.92	0.76	1.12
Going out socially once a fortnight	1.11	0.90	1.38
A meal out once a month	1.02	0.79	1.31
Going to the cinema, theatre or music event once a month	1.05	0.81	1.38
Going out for a drink once a fortnight	0.87	0.65	1.16
<b>Holiday abroad once a year</b>	<b>0.74</b>	<b>0.55</b>	<b>0.98</b>

\*Items in *italics* - received 50% or more in CAPI but <50% via SC method

Results indicate that CAPI respondents rated 25 out of 32 items significantly higher than people who were interviewed using the SC method (shown in bold in Table 2). In relation to adult items *Hair done or cut regularly* had the largest risk ratio (1.54) indicating that CAPI respondents were 1.54 times (or 54%) more likely than SC respondents to think this item was a necessity. The confidence intervals confirm that the finding is significant. In comparison, only 3 out of 14 social activities were significantly different (shown in bold in Table 2). This confirms the higher level of agreement between respondents, regardless of which method was used, in respect to social participatory activities.

### 3.1 Children's items and social activities

For children, a similar pattern emerges; people are more generous with their views regarding what constitutes essential items if using the CAPI method. The contrast here is that the extent of the percentage difference between responses is less extreme than it is for adult items. Nevertheless, some notable differences are apparent. In particular, '*Indoor games suitable for their ages*'; '*Some new, not second hand clothes*'; '*Enough bedrooms for every child of 10 or over of a different sex to have their own bedroom*' and '*At least 4 pairs of trousers, leggings, jeans or jogging bottoms*' all range between 10 and 15 percentage points of difference between the two methods of capturing opinion. However, only one item '*At least 4 pairs of trousers, leggings, jeans or jogging bottoms*' reached consensus with one method (CAPI) and not the other (SC). In general, what was thought of as essential and non-essential for children in today's society remained constant regardless of the method used for assessing public opinion (see Appendix Two).

Again, when it comes to social activities people scored items and activities higher if using the CAPI method. Once more there is closer consensus between the two methods on which social activities people thought necessary or not necessary for children. In no instances was an activity deemed necessary or unnecessary by one method and not the other.

RRs were used to investigate whether the different results were statistically significant. Analysis indicates that CAPI respondents rated 13 out of 22 children's items significantly higher than SC respondents (shown in bold in Table 3). Three out of eight children's social activities were rated significantly higher (shown in bold in Table 3) when respondents were interviewed using CAPI.

**Table 3: Child items – Relative risk ratios (CAPI vs. SC)**

OMNIBUS 2012 – CHILDREN'S ITEMS	Relative Risk Capi v's SC	95% CI Lower	95% CI Upper
<b>FOOD</b>			
<b>Fresh fruit or vegetables at least once a day</b>	<b>1.03</b>	<b>1.00</b>	<b>1.06</b>



Three meals a day	1.03	0.99	1.06
<b>Meat, fish or vegetarian equivalent at least once a day</b>	<b>1.04</b>	<b>1.00</b>	<b>1.09</b>
<b>CLOTHES</b>			
A warm winter coat	1.01	0.99	1.03
New, properly fitting shoes	1.04	0.99	1.08
<b>Some new, not second-hand clothes</b>	<b>1.20</b>	<b>1.10</b>	<b>1.30</b>
<i>At least 4 pairs of trousers, leggings, jeans or jogging bottoms</i>	<b>1.29</b>	<b>1.15</b>	<b>1.45</b>
Clothes to fit in with friends	1.11	0.92	1.35
Designer/brand name trainers	0.80	0.51	1.26
<b>DEVELOPMENTAL</b>			
<b>Books at home suitable for their ages</b>	<b>1.07</b>	<b>1.03</b>	<b>1.11</b>
<b>Indoor games suitable for their ages (building blocks, board games, computer games etc)</b>	<b>1.16</b>	<b>1.08</b>	<b>1.23</b>
Computer and internet for homework	0.99	0.91	1.09
<b>Outdoor leisure equipment such as roller-skates, skateboards, footballs etc.</b>	<b>1.11</b>	<b>1.01</b>	<b>1.23</b>
<b>Money to save</b>	<b>1.21</b>	<b>1.08</b>	<b>1.35</b>
<b>Construction toys such as Duplo or Lego</b>	<b>1.18</b>	<b>1.06</b>	<b>1.32</b>
<b>Pocket money</b>	<b>1.14</b>	<b>1.02</b>	<b>1.27</b>
Bicycle	1.03	0.91	1.17
Mobile phone for children aged 11 or older	1.04	0.85	1.28
MP3 player such as an iPod	0.81	0.54	1.23
<b>ENVIRONMENTAL</b>			
<b>A garden or outdoor space nearby where they can play safely</b>	<b>1.05</b>	<b>1.02</b>	<b>1.09</b>
<b>A suitable place at home to study or do homework</b>	<b>1.05</b>	<b>1.01</b>	<b>1.10</b>
<b>Enough bedrooms for every child of 10 or over of a different sex to have their own bedroom</b>	<b>1.18</b>	<b>1.09</b>	<b>1.29</b>
<b>PARTICIPATION AND ACTIVITIES</b>			
Celebrations on special occasions such as birthdays, Christmas or other religious festivals	1.03	0.99	1.08
<b>A hobby or leisure activity</b>	<b>1.07</b>	<b>1.02</b>	<b>1.12</b>
Toddler group or nursery or play group at least once a week for pre-school aged children	1.03	0.97	1.09
Children's clubs or activities such as drama or football training (youth club or similar activity)	1.04	0.98	1.11
<b>Day trips with family once a month</b>	<b>1.12</b>	<b>1.01</b>	<b>1.24</b>
<b>Going on a school trip at least once a term</b>	<b>1.24</b>	<b>1.10</b>	<b>1.39</b>
A holiday away from home for at least one week a year	1.10	0.95	1.26
Friends round for tea or snack once a fortnight	1.07	0.93	1.24

\*Items in italics - received 50% or more in CAPI but <50% via SC method

#### 4. Strength of opinion among different groups

Analysis of the opinion of different groups within each method revealed a broad consensus of opinion on what constitutes necessities for a minimum standard of living (see Appendix Three). There were some noticeable differences between respondents in paid employment and those not in paid employment and between those in tertiary and primary education within the SC respondents. Here, SC respondents in paid work and with higher



levels of education were less likely to consider certain items and activities as essential than those not in paid work or with a primary level of education. Notwithstanding these differences of opinion, and similar to previous findings (Pantazis et al. 1999; McAuley et al. 2003; Kelly et al. 2012), the greatest differences occurred between young people (18-24 years) and older people (65+ years). The differences are intuitive, for example, younger people more likely to claim internet connection at home to be necessary (52% CAPI and 36% SC) than older people (19% CAPI and 14% SC). On the other hand, older people are more inclined to claim a roast joint is a necessity (52% CAPI and 45% SC) than younger people (28% CAPI and 22% SC).

The same pattern of agreement exists with regard to the high consensus on social activities, regardless of the method of questioning. As does the high level of agreement about what constitutes necessities for children across both methods. The main point is, overall percentages may be higher in the CAPI method but the general pattern of consensus within the general public is similar.

## 5. Content versus Cognition

Why does the CAPI method produce significantly higher results for some questions than the SC method and what other factors can account for this, aside from mode of administration? The literature points to a number of factors which may influence survey responses. For example, as part of the Office for National Statistics (ONS) [question harmonisation programme](#), work was carried out to measure social capital. This involved converting the harmonised set of survey questions administered via CAPI into a postal questionnaire format to aid comparable data collection at local authority level (Rahman and Dewar 2006). As part of an evaluation process, social capital data was collected from the Health Survey for England (HSE) through face to face interviewing and compared with results from data collected via a postal questionnaire (Nicolaas and Tipping 2004). Slight differences in question response options were believed to have been responsible for the variation in estimates, including affecting the non-response rate. For another question, the range of response options was greater in the questionnaire than the interviewer based method. The extra information the respondent had was believed to have contributed to variations in survey estimates between the two different modes of investigation. The project concluded that different methods of administration reduced comparability (see ONS (2006) for a review).

The premise of the ‘social desirability effect’ is based on respondents’ desire to please; where respondents, when being interviewed in a face to face situation, are more likely to give an answer they think the interviewer will approve of, or an answer that will give them social acceptability, or one that would not show their neighbourhood in a negative light (Krumpal 2013). Social desirability was presented as a possible explanation for differences in estimates in the ONS work discussed above, reported by Nicolaas and Tipping (2006: 56).

Questions which require a ‘yes’/‘no’ answer are said to produce a ‘positive bias’ whereby a higher positive response rate will be achieved (Smyth et al. 2008). Ageing has also been associated with stronger positive bias (Simón et al. 2013).

Recent developments in this field have included cognitive approaches designed to evaluate respondent understanding and identify any underlying interpretation issues. The ONS work on measuring national well-being has shown how people who answer the personal well-being questions by telephone consistently give higher ratings on average than those who answer in face-to-face interviews (ONS, 2014). Cognitive investigations found that respondents who answered the well-being questions on the telephone felt there was ‘*greater risk of errors in this mode due to greater cognitive burden*’ and that telephone mode was viewed by respondents as ‘*being less serious than when an interviewer actually calls at a respondent’s home*’ (Ralph et al. 2011: 8).

A number of cognitive investigations have focused on poverty and social exclusion (Legard et al. 2008; McKay 2008; Fahmy et al. 2012). When comparisons of necessities for older people (collected in 2008) were made with necessities for all individuals in the PSE 1999 study (McKay, 2008), a higher proportion of people regarded items as necessary in 2008. Notably, the method of data collection was different, with the non-SC method producing, as it did here, significantly higher results. The SC approach has been tested cognitively (Blake et al. 2009) and found to be less helpful than other approaches, but this was in connection to older people’s views of child poverty and was not restricted to the necessity of items per se.

We cannot cognitively test the Omnibus respondents' understanding retrospectively but hypothesise that at least two factors acted as biasing influences. First, was the slight difference in question wording. SC respondents were asked to choose items and activities they thought were 'necessary' or 'desirable, but not necessary'. The CAPI respondents were offered the exact same lists of items and activities and asked to decide whether an item/activity was 'necessary' or 'not necessary'. Is it possible that the word 'desirable' implied a different threshold of necessity? In other words, did 'desirable, but not necessary' suggest a stricter account of need which contributed to a lower estimate? There is some suggestion of this in the responses from those in paid work and with higher levels of education (see Appendix Three). It is likely that people out of work and having difficulty competing against higher qualified individuals in an employer's market have a more acute sense of necessity if they have experienced deprivation. But if this was the case, then why did this mainly affect only opinions relating to items and not social activities? In addition, why did it effect views on adult necessities more than views on children's necessities? If the wording change was a key factor for the different responses, then the same pattern should have been apparent across all items and activities for adults and children.

Second, differences could have been influenced by the 'social desirability effect'. This phenomenon could possibly be a contributing factor in respondents' replies. For example, when people used the SC, the items deemed necessary were visible to the interviewer whereas CAPI respondents could give their choices privately. The majority of adult necessities with the greatest differences (15% or over) in opinion is in relation to what could be described as adult 'Appearances' (table 4):

**Table 4: Adult necessities associated with appearances**

Appearances	CAPI-SC % difference
Good outfit to wear for special occasions such as parties and weddings	+20
Good clothes to wear for job interviews	+19
Curtains or window blinds	+18
Hair done or cut regularly	+16
Two pairs of all-weather shoes	+15

Perhaps people are more likely to declare the importance of an appearance item privately, via CAPI. The concern maybe that choosing publically a '*good outfit to wear for special occasions such as parties and weddings*' as a basic necessity might appear frivolous during a time of recession and high unemployment. Alternatively, it is reasonable to think that choosing [publically] '*good clothes to wear for job interviews*' would be considered a desirable response as it would suggest responsible job seeking activity.

The social desirability hypothesis is weakened further by the fact that support for adult social activities was mostly constant, regardless of whether the respondent was using SCs or self-completing the module privately. Furthermore, five of the 14 adult social activities received less support by people using the CAPI method and these were all associated with personal entertainment and enjoyment which, if the desirability hypothesis held true, would have received less support using SC as they would be deemed an unsuitable answer in a time of economic recession (table 5):

**Table 5: Adult necessities associated with entertainment and personal enjoyment**

Entertainment	CAPI-SC % difference
Holiday abroad once a year	-5
Going out for a drink once a fortnight	-3
Visiting friends/family in other parts of the country four times year	-2
Celebrating special occasions such as Christmas	-2
Having friends or family visit for a drink or meal once a month	-1

In fact, for a further seven adult social activities the difference was no higher than 5%. The child items showed a similar pattern but on a smaller scale. In relation to child social participation, all activities received higher support by respondents using CAPI but the differences between the two methods were smaller than they were for adults. Seven out of eight social activities for children had differences no greater than 6%.

## 6. Interviewers' perceptions

The Omnibus survey was carried out by NISRA, an Agency within the Northern Ireland Department of Finance and Personnel. The Agency has a long track record of providing a survey research service to Government Departments and the wider public sector in Northern Ireland. NISRA recruits, trains and maintains its own field force of interviewers who have developed extensive experience from working on the regular and commissioned surveys. We contacted NISRA to request a meeting with a small number of interviewers who had worked on the June 2012 Omnibus survey. Three interviewers were selected on the basis of experience (length of time working with NISRA on major surveys), the fact that they had carried out almost equal amounts of interviews using both methods, and their availability. A meeting was set up in NISRA with the interviewers and the project researcher.

One issue that needed to be addressed was the fact that almost a year had lapsed since the June 2012 survey. To aid recollection, the original interviewer instructions, together with a number of screenshots from the SC and self-completion exercise, were sent to the interviewers prior to the meeting.

The researchers were asked to think back to the survey period and invited to note any personal perceptions they may have had of the two different modes of data collection. For example, whether or not the survey participants gave any indication of a preference for one method over the other; were any comments articulated by study participants during the interviewing process; was there much deliberation on responses to the necessities list; did one method take longer than another and was there evidence of participant fatigue. In general, the interviewers were asked to note any observations they may have had regarding the interviewing process.

Their general observations can be classified into these areas:

1. Timing
2. Third person/Social desirability
3. Question wording/Deliberation

### 6.1 Timing

An initial reaction from the interviewers was to comment on how much longer the SC exercise took to complete in comparison with CAPI. All agreed at the beginning that they felt it was very time consuming. This was evidenced by recounting the response received from some participants when presented with each set of cards. One interviewer explained how he thought the bulkiness of the cards may have proved disconcerting for some people because it gave the impression that the exercise was going to take a long time. The others agreed with this assertion.

*"I think some people looked at the depth of the cards...I thought some people felt intimidated by them. I thought it might have been the other way around but people...when they looked at the size of the cards you could nearly see them thinking 'oh this is terrible' and they nearly wanted to get shot of them."*  
(Interviewer A)

The physical disruption caused by the SC application was an issue which was brought up by the interviewers. The general opinion was that the exercise took up a lot of physical space and required a table, which most houses did not have. It was believed this added to lengthening the time it took to complete the exercise.

When then asked if the CAPI method was much quicker, people did not agree this was the case either. In fact, the discussion turned to how, on the CAPI screen, the 'enter' key had to be returned after each individual item or activity and this was believed to have slowed down the CAPI because people asked for help with this stage of the process.

*“The CAPI didn’t move on by itself, you had to actually press ‘enter’...you couldn’t really whizz through it, a person had to take their time with it. Whereas most of our surveys, it moves on itself. That slowed it up a bit because you had to press ‘enter’ each time.”*  
(Interviewer B)

Furthermore, people spoke about how some participants being interviewed via CAPI got bored going through the necessities list and asked how much longer it would take. It was suggested that because the respondent did not have the cards in front of them, they had no idea how many options were left and this was believed to have caused some frustration. Equally, the interviewer did not know what stage the respondent was at on the self-completion task (as the list was randomised) so they could not tell them. And even if they did know whereabouts they were in the exercise, they would not have been able to give an indication as different people take differing amounts of time to fulfil the self-completion section. The interviewers felt that being able to see how many cards there were acted as a form of encouragement. This is how interviewer C explained it:

*“The main thing was – with the computer it was ‘how many more of these are there?’ At least with the cards you could say ‘look, there’s only these to go.’”*

Age was an associated factor believed to have contributed to slowing down the CAPI procedure. There was agreement that older people in general request more assistance when completing via CAPI, often exhibiting cautiousness for fear of breaking the equipment. After much deliberation, the interviewers reached the opinion that while the SC generally took longer, on reflection the difference was not as great as they initially thought.

## 6.2 Third person/Social desirability

All interviewers could recount experiences of other people being present when the Necessities module was being carried out. The general consensus was that it was not a regular occurrence and it did not have a great impact because people had their own firm opinions. However, in at least a few cases it made the nature of the SC process more interactive. For example, the interviewers described how sometimes the visibility of the exercise initiated a reaction from others who were present to the point where they wanted to join in. Interviewer A recalled a respondent talking to another family member thus:

*“Who’s doing this, you or me?”*

While interviewer B added:

*“I do recall somebody saying ‘I wouldn’t have put that there...or saying ‘what do you think?’”*

The overall feeling expressed by the interviewers was that the SC exercise was a more interactive process in comparison with CAPI which contributed positively to creating a relaxing atmosphere and gave people more confidence to answer honestly. Furthermore, it was alleged to have introduced a more thought provoking process.

There is a large amount of literature which has studied the effects of the presence of a ‘third person’ during an interview and the impact this can have on response effect (such as respondents changing their mind and such like (e.g. Sudman and Bradburn 1974; Bradburn 1983). Much of this work focuses on the presence of others in relation to sensitive information like personal relationships, income, sexual behaviour, health conditions etc. However, the literature is not consistent in the degree to which this is found to be an influencing variable and ranges from being significantly important to being fairly rare (Smith 1997). In contrast, it is said to be of minor significance when discussing objective information such as date of birth, place of birth etc. (Sudman and Bradburn 1974).

It had been anticipated that ‘social desirability’ may have been a main influencing factor. This phenomenon was discussed at different stages throughout the conversation and at no point did the interviewers consider it a major element. All interviewers were agreed on this opinion. Interviewer B explained that because they were usually sitting facing the respondent and not beside them, they always had an upside down view of the cards and the participants were aware of this.

### 6.3 Question wording/Deliberation

The interviewers were asked if the word ‘desirable’ was ever commented on by SC respondents. All three interviewers said they had occasionally been asked by the SC respondent to expand on what was being requested from them and seeking a definition of the word. Interviewers felt that once respondents knew what was expected, no one had any difficulty in answering honestly.

Another issue to emerge during discussions was the matter of ‘Don’t Know’ responses. Neither method offered a specific ‘Don’t Know’ option. However, if the SC respondents were undecided, or chose not to answer the question, the card could have been physically set aside. With CAPI, respondents did not have this feature. While it was possible for a ‘Refusal’ or ‘Don’t Know’ response to be entered on the CAPI screen, this would have had required intervention from the interviewer, as Interviewer C explained:

*“They would have had to have said to us and then we would have put the question mark down.”*

The issue of ‘Don’t Know’ responses was discussed further and all agreed that the CAPI respondents’ options were more ‘*black and white*’.

The three interviewers said there were very few if any occurrences where people could not answer. In situations like this, they said they are always encouraged to stimulate an answer from the respondent.

However, it transpired that when the necessities data was being analysed there were a higher number of missing values recorded in the SC exercise. This was due to a programming error which resulted in a hard check being disabled during the survey development stage. Any SCs that are not allocated to either box A or box B must be accounted for (all the card numbers must be entered into the computer). A check prompts the interviewer to ensure they do not move on until this is completed. Unfortunately, this check was deactivated resulting in some interviewers failing to correctly record all the responses for some respondents.

In-depth analysis of the Omnibus data revealed that the missing data appeared to consist mainly of unrecorded ‘Don’t Know’ responses and no additional biases were evident by demographic group. These data were considered to be Missing At Random (MAR) and treated in accordance with the statistical guidelines (see Gordon et al. 2012 for full details). So, while the experienced interviewers did not face a problem with ‘Don’t Know’ responses, not being prompted to enter all card numbers into the computer proved problematic for at least some interviewers carrying out the SC exercise.

When asked if respondents preferred one or other method, the interviewers had difficulty reaching a decision. One example was given of a young mid-30s professional who was very dismissive of the SC exercise commenting that it was like stepping back 50 years in research terms, to the point where interviewer B said it was an embarrassing experience for her. On the other hand, another young person she interviewed who was extremely computer literate had enjoyed the exercise. Overall, no one could agree that either method was preferable to respondents.

It re-emerged that the bulk of cards was initially daunting for some people because it made the scale of the task appear sizeable. However, once people got into it, they became more conscious of the undertaking. The general opinion of the interviewers was that people thought more about what they were doing when using the cards. One explanation offered was the fact that each item and activity had an individual card which the respondent held in their hand. They recounted how sometimes people spent time considering where to put it which was believed to have directed a more measured decision making process. Interviewer C explained what happened a few times with the cards:

*“They would have read it more than once sometimes, not every time, but it did happen.”*

It then emerged that each interviewer had experienced people changing their mind and moving one card from one pile and putting it in another pile. Although it was acknowledged that this was only on rare occasions. However, the fact remains that this option was not available to people using CAPI. There was not the same opportunity to go backwards if a person had a change of mind – ‘*out of sight, out of mind*’ – as interviewer A explained it.

There was a definite sense acquired from the interviewers that the SC produced a more precise judgement. The advantage of speaking with experienced interviewers was their ability to easily compare with other surveys. This was the case here when interviewer B was able to draw comparisons with the Omnibus survey and the survey she was currently working on. She was discussing using a show card in the current survey which offered respondents multiple responses:

*“It’s funny you know, I was thinking...we’re doing a survey at the minute and you have a show card with maybe about 14 or 16 answers and you’re asking people which of these do you consider to be a [...]. Most people would go down it [the list] but I find people are scooting down it. They could give me all those options but they’re looking down it so quickly they’re not. And I’m thinking, with the SCs people are taking them one at a time and you’re getting a more accurate response.”*

## 7. Discussion

Perceptions from the interviewers who carried out the field work in the Omnibus survey suggest that the SC method triggered a more reflective response from participants, possibly ensuing a more measured and accurate judgement. The physicality of the exercise is thought to have engendered a more interactive environment with respondents giving more consideration to their choices. In comparison, respondents who were interviewed using CAPI were thought by the interviewers to have been less engaged and there is a suggestion that people here may have been less thorough when deciding on the necessity or non-necessity of deprivation items. This conclusion is reinforced by the fact that they could not see how many more questions there were to answer, so did not know how much longer the task would take. This may have led to a less than considered judgement in a rush to get the task finished. In addition, once the respondent had pressed ‘enter’, there was no obvious way of returning to the previous question without intervention from the interviewer and none of the interviewers we spoke to had been asked if they could go back to the previous question, unlike the SC where all interviewers had experienced at least one respondent who had changed their mind.

It is important to remember that these reflections are based on the views of only three interviewers, together with the fact that eleven months had elapsed since the Omnibus was carried out. Interviewer recollections of particular incidents were often followed by the caveat that it was not a general or regular experience. However, all efforts were made to assist recall by sending out the interview materials and instructions in advance of the meeting and all interviewers said they had read up on the instructions again (Interviewer A said he still had the SCs and had gone through them before coming to the meeting). In addition, these were very experienced interviewers who have worked extensively on a range of surveys and whose training is regularly kept up-to-date. While it is accepted that their observations may have occurred only rarely, the fact that all three had similar experiences suggests they were not unique.

From the interviewers’ perspective it appears that the SC method leads to a more considered response. This would account for the reduced number of items being supported as necessary compared with CAPI. However, there are a number of important factors to consider. Firstly, the slight difference in wording - CAPI respondents were asked to choose between ‘necessary’ or ‘not necessary’ whereas SC respondents were asked to choose between ‘necessary’ or ‘desirable but not necessary’. Effectively this introduced another dimension in the thought process, which is a good thing, because we believe the word ‘desirable’ contributed to this reflection, ameliorating the positive bias effect known to be associated with yes/no answers. Secondly, the physical orientation of the SC exercise meant a ‘Don’t Know’ response was easier to make in comparison with CAPI where the option was not obvious and would have required intervention from the interviewer. There is a strong possibility that this also contributed to the lower number of items and activities being chosen as necessities via the SC method.

The evidence in support of the social desirability hypothesis is weak but the effect of the interaction between the respondent and the third person in the room cannot be discounted. Even though the interviewers said it was not a regular occurrence, it was a factor in some people’s decision making process.

But these factors do not explain why the results of social activities are much less diverse, irrespective of which method of data collection was used. It seems likely that when households come under severe economic pressure, their preferences are more restricted making social participatory activities such as a family holiday or a night out



with friends things that could be forfeited in favour of the more fundamental necessities of life. Recent research on expenditure poverty in Northern Ireland (Hillyard and Patsios 2013) points to such a trend revealing the changing pattern of household expenditure charted alongside falls in actual living standards. It is clear, at least in the context of social participation, that people are unswaying in the belief that social activities associated with tradition and custom of the society in which a person lives, such as visiting family and friends in hospital and attending landmark family events like weddings and funerals are absolutely crucial and, consistent with the research, when people have very strong opinions, they are unlikely to be affected by external influences (Krosnick and Smith 1994).

## 8. Conclusion

Our investigation contends that, overall, the greatest differences existed between the different types of mode, rather than within modes. Analysis demonstrates that the SC method remains the most reliable and valid method for selecting material deprivation items. The method affords people the ability to be reflective and we believe this produces a more thoughtful choice. However, just as deprivation lists need to be revised over time to reflect social and economic change, it raises a question as to how much longer it will be acceptable, or regarded as efficient, to use the SC method for collecting such opinions. While the SC results are highly valid, there may be a need in future to move to a fully computerised method of data collection. The simplest solution would be to modify the CAPI method to make it more comparable with the SC method. In relation to timing, the screen could be adapted to show a count of the number of items remaining after each question so respondents would know how many are left to answer. Questions could move on automatically after an item or activity has been chosen instead of having to press the return key. The necessities list could be presented in a way that would allow the respondent to scroll back and forth if they felt they wanted to return to an item or activity. This would then mean people could change their response on reflection. We believe this would reflect societal change without compromising the benefits of the SC method in capturing thoughtful responses.

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# APPENDIX ONE – Adult items and activities

ADULT ITEMS/ACT'S	CAPI %	SC %	CAPI-SC
<b>FOOD</b>			
Two meals	97	94	3
Fruit & veg	88	85	3
Meal with meat, fish or veg	84	76	8
A roast joint	42	38	4
<b>HOUSING</b>			
Warm home	99	97	2
Damp-free home	97	94	3
Table & chairs	83	75	8
Decorate home	77	69	8
<i>Replace furniture</i>	<i>53</i>	<i>40</i>	<i>13</i>
<b>CLOTHES</b>			
Warm coat	88	80	8
Clothes for job interviews	81	62	19
<i>Two pairs shoes</i>	<i>62</i>	<i>47</i>	<i>15</i>
<i>Good outfit</i>	<i>58</i>	<i>38</i>	<i>20</i>
<i>Replace worn out clothes</i>	<i>55</i>	<i>45</i>	<i>10</i>
<b>INFORMATION</b>			
Telephone (includes mobile)	81	70	11
<i>Television</i>	<i>58</i>	<i>48</i>	<i>10</i>
Mobile phone	41	35	6
Home computer	38	28	10
Internet	36	28	8
<b>DURABLE GOODS</b>			
Replace/repair electrical goods	93	82	11
Washing machine	91	85	6
Curtains/blinds	83	65	18
Car	45	45	0
Dishwasher	13	12	1

ADULT ITEMS/ACT'S	CAPI %	SC %	CAPI-SC
<b>PERSONAL</b>			
Dental work	93	83	10
Haircut	45	29	16
<b>PERSONAL FINANCES</b>			
Household contents insurance	77	73	4
Regular savings	67	52	15
Pay unexpected expense of £500	62	53	9
<i>Presents for friends or family</i>	<i>55</i>	<i>40</i>	<i>15</i>
<i>Payments into pension</i>	<i>52</i>	<i>40</i>	<i>12</i>
<i>Money for self</i>	<i>50</i>	<i>37</i>	<i>13</i>
<b>SOCIAL</b>			
Visiting friends/family	93	83	10
Celebrating special occasions	84	86	-2
Attending weddings etc.	83	75	8
Hobby	71	67	4
Taking part in sport	60	55	5
Attending church or other	57	56	1
Friends/family visit for meal	43	44	-1
Holiday	37	33	4
Visiting family/friends	29	31	-2
Going out socially	28	25	3
Meal out	21	20	1
Cinema, theatre or music	19	18	1
Going out for a drink	15	18	-3
Holiday abroad	14	19	-5

\*Items in italics - received 50% or more in CAPI but <50% via Sort Card method

## APPENDIX TWO - Children's items and activities

CHILDREN ITEMS/ACT'S	CAPI %	SC %	CAPI-SC
<b>FOOD</b>			
Fresh fruit or veg	97	94	3
Three meals a day	95	92	3
Meat, fish or veg	92	88	4
<b>CLOTHES</b>			
Warm coat	97	96	1
New shoes	94	90	4
New clothes	78	65	13
<i>At least 4 pairs of trousers etc.</i>	<i>64</i>	<i>49</i>	<i>15</i>
Clothes to fit in with friends	34	30	4
Designer trainers	7	9	-2
<b>DEVELOPMENTAL</b>			
Books suitable for ages	94	88	6
Indoor games etc.	86	74	12
Computer and internet	66	66	0
Outdoor leisure equip	66	59	7
Money to save	63	52	11
Construction toys	62	52	10
Pocket money	60	53	7
Bicycle	51	50	1
Mobile phone	29	28	1
MP3 etc.	8	10	-2
<b>ENVIRONMENTAL</b>			
Outdoor space	95	90	5
Place to study	92	87	5
Enough bedrooms	76	64	12
<b>PARTICIPATION AND ACTIVITIES</b>			
Celebrations	91	88	3
Hobby	90	84	6
Toddler group	84	82	2
Children's clubs or activities	81	78	3
Day trips with family	63	57	6
School trip	62	50	12
Holiday	47	43	4
Friends round	46	43	3

\*Items in italics - received 50% or more in CAPI but <50% via Sort Card method

## APPENDIX THREE

*Number of significant differences across social groups*

Social Group	CAPI Adult Necessities		CAPI Child Necessities		SC Adult Necessities		SC Child Necessities	
	Items	Activities	Items	Activities	Items	Activities	Items	Activities
Male v's female	2/32	1/14	1/22	0/8	7/32	2/14	3/22	0/8
Young v's old	11/32	4/14	2/22	2/8	12/32	0/14	1/22	1/8
Disabled v's non-disabled	1/32	1/14	1/22	0/8	3/32	1/14	1/22	1/22
Paid employment v's no paid employment	5/32	0/14	1/22	1/8	12/32	4/14	2/22	4/8
Tertiary education v's primary education	8/32	3/14	2/22	2/8	12/32	5/14	5/22	4/8
Catholic v's Protestant	3/32	1/14	1/22	0/8	0/32	0/14	2/22	0/8
Urban v's rural	2/32	1/14	2/22	0/8	2/32	2/14	0/22	0/8

**Conflict of interest:**

The authors declare that they have no conflict of interest.

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